

# Optimize Higher Vocational Education Urban Rail Transit Professional Courses with Modern Teaching Technology

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**Abstract:** Based on the pilot project of “1+X” certificate system in higher vocational education and the experience of information teaching, the national higher vocational education system has opened the exploration of new forms of education. Teachers started reflecting and reconstructing the curriculum structure and teaching methods. Modern education technology has begun to have a continuous impact on traditional teaching models. By using a variety of modern education techniques, teaching reforms, teachers, teachers adjustment of new ideas, new perspectives, new models, new methods to adjust optimization of original teaching methods, students’ interest, learning efficiency, and training skills have greatly improved, and can also achieve personalized teaching of applications. Therefore, the use of modern teaching technologies to optimize higher vocational education professional courses to facilitate new feelings and motivation in the face of future education and teaching reforms.

**Keywords:** Modern Teaching Technology; Higher Vocational Education; Optimization Course

The traditional teaching thought and teaching mode that teachers impart knowledge to students according to the selected teaching materials is actually to transfer the static teaching material knowledge to students through the teaching method centered on teachers. Single linear traditional teaching process: Teacher teaching-students listening and taking notes-students reciting-teacher examination. How much knowledge teachers teach and how much students recite before the exam determine students’ academic performance. However, according to the survey data in recent years, the monotonous traditional classroom teaching form of “speaking and reciting” and the boring content of teaching materials are the main reasons for students’ weariness and low learning efficiency. Moreover, according to the feedback of urban rail transit enterprises on the employed graduates, students’ lack of practical ability, serious forgetting of professional knowledge, poor teamwork ability and other factors seriously restrict students’ career development. Therefore, we should change the teaching ideas and teaching modes, continuously infiltrate modern educational technology into all fields of urban rail transit professional education and teaching, make students truly become the main body of teaching, increase the appeal and attraction of teachers’ classroom teaching, make professional knowledge more interesting and intuitive, and link “teaching, learning and doing”, It is imperative to establish a new education and teaching model that meets the requirements of urban rail transit enterprises and students’ cognitive characteristics and promotes students’ active participation in learning.

## 1. Using modern educational technology to promote education and teaching reform

By using modern educational technology to optimize the curriculum of urban rail transit specialty in higher vocational education, the education and teaching reform from teacher as the main body to student as the main body can

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be realized in teaching. Online, students make full use of the materials provided by the teaching resource database platform of urban rail transit specialty and the teaching materials independently created by teachers on the school network platform for independent learning, independent thinking and independent knowledge integration. Offline teachers provide Q & A and practical teaching guidance for students' learning, so that students can have a deeper understanding of the difficulties and key points of this class. The teaching process can be reformed as follows: professional course teachers can release the preview task of this class to students in advance. After students preview, find relevant materials and think about the course content in advance, they can interact with teachers in the classroom with problems, divergent thinking, solve problems, master knowledge points and improve practical skills in the classroom. After class, students can also use the after-school exercises on the teaching platform to test their learning effect, find the incomplete knowledge points in time, and use the teaching materials on the network teaching platform for supplementary learning to achieve the best learning effect. Teachers can also analyze the causes of students' errors for exercises with high error rate according to the detection of students' after-school exercises after each class. When reviewing the knowledge in the next class, teachers can focus on the knowledge points that students do not have a solid grasp, so that students can better master the content they have learned. Using modern educational technology in teaching can enable students to fully participate in the whole process of teaching, mobilize students' enthusiasm for autonomous learning to the greatest extent, and realize the education and teaching reform with students as the main body.

## **2. Using modern educational technology to improve teaching efficiency**

The traditional classroom teaching mode is that teachers talk for 45 minutes and students listen for 45 minutes. Students are easy to get tired and have low learning efficiency. It is not suitable for college students who can obtain information quickly and intuitively in the new era, and it is not suitable for the classroom of urban rail transit major in higher vocational education who needs strong operating skills. In order to improve teaching efficiency, teachers can use modern teaching methods to record videos, establish micro classes and admire classes on the school's professional online teaching platform, create a question bank, and carry out online education and teaching with fast, intuitive, short, easy to understand, learning and testing teaching methods. Offline classroom teachers can carry out "teaching, learning and doing" integrated teaching, Spare more time for students to practice and improve teaching efficiency. Online teaching can also facilitate students to preview and pave the way for their professional courses before class, review at any time after class, consolidate their knowledge and self-study in their spare time, improve their knowledge structure, so that students can make full use of fragmented time to preview and review independently according to their own ability, integrate and summarize their knowledge, and finally realize "learning, counseling teaching" three in one teaching to improve students' learning efficiency.

## **3. Using modern educational technology to improve students' vocational skills**

Cultivating high-quality skilled talents to meet the needs of urban rail transit enterprises is the key task of urban rail transit professional teachers, so it is particularly important to improve students' operation ability and application ability. Teachers can combine the situation of students' pre-test and use various modern educational technology means to create job situations such as urban rail transit duty station master, comprehensive controller and station attendant, so as to promote students' practical ability and exploration spirit. Teachers can use a variety of modern technologies to act on students from vision, hearing, language organization, hands-on operation training and other aspects to stimulate students' thirst for knowledge of urban rail transit. Let the students listen to the teacher's explanation and watch the teacher's operation with the tasks and problems during preview, and finally conduct hands-on training or role play in the situation preset by the teacher, find and solve problems in practice, and organically combine intuition with scene, sensibility and rationality, theory and practice.

## **4. Use modern educational technology to teach students according to their aptitude**

Each student is an independent individual with different personality, different preferences, different knowledge reserves and different angles of thinking. Teachers can use the results of pre class test, in class test and univariate test on the network platform to understand the learning situation of each student, develop strengths and avoid weaknesses, carry out targeted teaching from the actual situation of students, and achieve the best learning effect. For students with good academic performance, teachers can guide students to use the network platform for in-depth and innovative learning of urban rail transit professional knowledge; For students with average academic performance, teachers can give affirmation and encouragement in time to stimulate students' learning enthusiasm; For students with poor grades,

teachers can understand their ideas, find problems, give them targeted guidance, and guide them to think and make progress step by step. Finally, every student can fully develop their talents and potential.

## **5. Using modern educational technology to improve students' discrimination**

When using modern educational technology for teaching, students will see various professional knowledge teaching contents from the Internet, and teachers will require students to consult materials by themselves. Therefore, in the process of learning, many students will find that there are conflicts in the teaching contents of some professional knowledge on the Internet. They need to distinguish what is the correct information and what is the wrong information. Through a period of practice, the students' union cannot distinguish the wrong content on the Internet at all, can question and ask for help from teachers, distinguish what makes the wrong information with the help of teachers, and then can independently distinguish the wrong content on the Internet. The students' ability to question, think independently and distinguish will be greatly improved.

## **6. Using modern educational technology to realize flipped classroom**

Offline classroom teaching teachers can manage students in group mode. In the teaching process, under the guidance of teachers, course team members first express their own ideas, then question each other, and finally seek a more complete and reasonable answer recognized by everyone, discuss and explore together, and complete the learning content. After discussing the final answer, each learning group will explain and report the group's exploration and understanding of new knowledge, and the teacher will guide and revise the report results. The future employment positions of students majoring in urban rail transit operation management are mainly station master on duty, comprehensive controller, station attendant, etc., these positions belong to window units and need to face passengers. Therefore, students need to have a certain level of expression ability. Flipped classroom can not only mobilize students' initiative in learning to the greatest extent, but also improve students' expression ability, which will have a positive impact on students' future employment and career. According to the investigation, use of modern educational technology can improve students' interest in learning.

To sum up, teachers combine online students' autonomous learning with offline classroom teachers' tutoring learning; The teaching content of professional courses takes into account the overall level of the class and the individual differences of individual students; Group discussion and brainstorming to improve students' teamwork, communication and organization skills; Use online resources to combine the cutting edge of modern enterprise technology development with teaching to realize flipped classroom; Cooperate with the use of Internet resources, self built network platform resources and various teaching tools to assist professional teaching, optimize classroom teaching, improve students' practical operation skills, let students master professional knowledge and practical skills in independent and easy classroom learning, and move forward towards the reform of education and teaching in the future.

## **References**

1. Wu W, Lin Q, Zhou Yu. Discussion and reflection on the application of formative assessment in clinical medicine teaching. *Health Vocational Education* 2019; 37 (11): 37-39.
2. Kuang Y. How to use modern educational technology to optimize the curriculum of urban rail transit specialty. *Occupation* 2008; 14: 76-77.
3. Fang M. Research on teaching design and application of "flipped classroom"—Taking "marketing planning" course as an example. *Journal of Sichuan Vocational and Technical College*. 2017; 3: 144-148.